

BMS-BMT-BMV



Usage Guide

In order to make the motors working in optimal situation, we recommend the following:

1. Oil temperature :normal 20°C~60°C upper limit 90°C (no more than one hour).
2. Filtering and oil cleanliness :a return filter should be installed in the system with a fineness in the range of 10~30µm and a piece of magnet should be installed at the bottom of the tank to prevent grits into the system. The max solid contamination grade of the oil is no more than 19/16.
3. Viscosity: 42~74 mm²/s at 40°C of oil temperature ,according to the condition to choose an applicable hydraulic oil.
4. The motors can be operated in parallel or series. When the pressure of the back exceeds 2MPa,it is necessary to install an external drain line to the tank.
5. For BMS、BMT and BMV series motors, the output shaft permit high axial and radial forces. The optimal operation situation should be at the 1/3~2/3 of the rated operation situation.
6. In order to obtain a longer life of operating motor should operate motors at first for one hour under 30% of rated pressure. In any case, be sure to fill up with hydraulic oil inside motor before increasing load.

Specification Data of Hydraulic Motor

distribution type	model	displacement (cm ³ /rev.)	Max. operating pressure (MPa)	speed range (rpm)	Max. output power (kW)
disc distribution	BMS	80~375	22.5	30~800	20
	BMT	160~800	24	30~705	35
	BMV	315~800	28	10~446	43

- NOTICE -

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BMT Series Hydraulic Motor

BMT series motor adapt the advanced Geroler gear set design with disc distribution flow and high pressure. The unit can be supplied the individual variant in operating multifunction in accordance with requirement of applications.

Characteristic features:

- * Advanced manufacturing devices for the Geroler gear set, which use low pressure of start-up, provide smooth and reliable operation and high efficiency.
- * The output shaft adapts in tapered roller bearings that permit high axial and radial forces. Can offer capacities of high pressure and high torque in the wide of applications.
- * Advanced design in disc distribution flow, which can automatically compensate in operating with high volume efficiency and long life, provide smooth and reliable operation.

Main Specification

Type		BMT 160	BMT 200	BMT 250	BMT 315	BMT 400	BMT 500	BMT 630	BMT 800
Geometric displacement (cm ³ /rev.)		161.1	201.4	251.8	326.3	410.9	523.6	629.1	801.8
Max. speed (rpm)	rated	470	475	381	294	228	183	150	121
	cont.	614	615	495	380	302	237	196	154
	int.	770	743	592	458	364	284	233	185
Max. torque (N*m)	rated	379	471	582	758	896	1063	1156	1207
	cont.	471	589	727	962	1095	1245	1318	1464
	peak	57.3	718	888	1154	1269	1409	1498	1520
Max. output (kW)	rated	18.7	23.4	23.2	23.3	21.4	20.4	18.2	15.3
	cont.	27.7	34.9	34.5	34.9	31.2	28.8	25.301	22.2
	int.	32	40	40	40	35	35	27.5	26.8
Max. pressure drop (MPa)	rated	16	16	16	16	15	14	12	10.5
	cont.	20	20	20	20	18	16	14	12.5
	int.	24	24	24	24	21	18	16	13
Max. flow (L/min)	rated	28	28	28	28	24	21	19	16
	cont.	80	100	100	100	100	100	100	100
	int.	100	125	125	125	125	125	125	125
Max. inlet pressure (MPa)	rated	125	150	150	150	150	150	150	150
	cont.	21	21	21	21	21	21	21	21
	int.	21	21	21	21	21	21	21	21
Weight (kg)	int.	25	25	25	25	25	25	25	25
	peak	30	30	30	30	30	30	30	30
		20	21	21	21	23	24	25	26

- * Rated speed and rated torque: output value of speed and torque under rated flow and rated pressure.
- * Continuous pressure: Max. value of operating motor continuously.
- * Intermittent pressure: Max. value of operating motor in 6 seconds per minute.
- * Peak pressure: Max. value of operating motor in 0.6 second per minute.

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PERFORMANCE DATA

BMT 160 [161.1cm³/rev.]

Flow (L/min)	Pressure (MPa)						
	4	8	10	12	16	20	24
10	88	176	228	275	361	447	535
	60	59	58	56	54	50	44
20	89	181	234	277	372	459	557
	121	120	117	114	109	103	95
40	91	180	235	277	381	471	573
	249	246	243	236	230	223	212
60	82	178	235	277	381	470	572
	371	367	362	356	349	340	330
80	78	173	229	276	379	466	567
	492	489	485	478	470	462	447
100	70	160	218	269	370	455	558
	614	611	606	598	590	582	570
Max.cont.	58	148	211	261	359	448	552
Max.int.	125	770	764	758	750	741	731

BMT 200 [201.4cm³/rev.]

Flow (L/min)	Pressure (MPa)						
	4	8	10	12	16	20	24
10	124	233	289	340	454	560	669
	47	46	45	42	39	37	33
20	125	239	298	347	468	576	696
	95	94	92	90	87	84	75
40	120	241	296	352	475	589	716
	195	193	191	187	183	178	167
60	116	237	295	352	478	589	718
	297	295	292	287	282	276	263
80	108	231	289	350	474	586	716
	395	393	389	384	377	370	359
100	99	227	286	344	471	580	712
	493	490	486	482	475	467	460
125	84	208	276	333	459	566	697
	615	611	607	602	595	588	572
Max.cont.	70	194	260	324	447	554	682
Max.int.	150	743	740	735	727	717	706

BMT 250 [251.8cm³/rev.]

Flow (L/min)	Pressure (MPa)						
	4	8	10	12	16	20	24
10	138	286	355	419	559	689	824
	38	38	37	36	34	32	31
20	143	296	364	432	580	708	853
	76	75	74	72	70	67	62
40	139	301	372	440	593	723	884
	156	154	152	149	146	142	134
60	132	294	372	441	592	727	888
	237	236	233	229	224	219	207
80	128	283	364	433	587	721	887
	317	316	314	308	303	299	284
100	126	282	355	427	582	716	879
	396	394	391	387	381	373	359
125	116	260	340	414	568	703	864
	495	492	488	483	476	469	454
Max.cont.	88	242	320	397	552	686	847
Max.int.	150	592	589	585	580	572	565

BMT 315 [326.3cm³/rev.]

Flow (L/min)	Pressure (MPa)						
	4	8	10	12	16	20	24
10	184	363	453	545	734	891	1062
	30	29	28	27	26	25	23
20	189	380	472	562	757	917	1109
	60	59	58	56	54	52	50
40	191	381	484	570	774	954	1149
	121	120	118	115	112	109	104
60	189	376	493	573	772	962	1154
	183	181	179	175	172	168	158
80	179	369	479	565	768	954	1153
	244	242	239	236	231	227	217
100	169	357	467	562	758	942	1143
	305	304	301	298	294	289	276
125	147	336	447	544	745	920	1127
	380	378	375	371	367	362	349
Max.cont.	119	318	432	526	713	894	1097
Max.int.	150	458	456	453	449	444	431

BMT 400 [410.9cm³/rev.]

Flow (L/min)	Pressure (MPa)						
	3	6	9	12	15	18	21
10	176	367	560	715	885	1050	1209
	24	23	22	21	20	19	18
20	179	370	565	726	899	1071	1236
	49	48	47	44	42	40	38
40	176	370	567	733	919	1091	1263
	96	95	93	90	87	83	79
60	174	361	563	729	920	1095	1269
	145	143	139	135	131	127	121
80	166	353	553	719	912	1084	1263
	193	191	188	184	180	176	170
100	150	339	538	708	896	1067	1252
	242	240	238	234	228	224	218
125	135	309	524	688	873	1045	1221
	302	300	298	294	289	285	178
Max.cont.	126	292	508	666	852	1020	1197
Max.int.	150	364	362	358	354	350	346

BMT 500 [523.6cm³/rev.]

Flow (L/min)	Pressure (MPa)						
	3	6	9	12	14	16	18
10	222	451	692	892	1050	1193	1340
	18	18	18	17	16	15	13
20	231	464	714	918	1070	1220	1377
	37	36	35	34	33	32	30
40	230	466	727	941	1094	1244	1422
	75	74	73	72	70	68	64
60	225	457	714	941	1088	1245	1409
	113	112	111	109	107	105	101
80	213	431	696	927	1076	1244	1401
	151	150	149	147	145	143	138
100	194	420	680	901	1063	1224	1383
	189	188	187	185	183	181	177
125	182	398	641	877	1024	1199	1352
	237	236	235	233	231	229	225
Max.cont.	147	369	618	853	1004	1167	1325
Max.int.	150	284	283	282	280	278	272

BMT 630 [629.1cm³/rev.]

Flow (L/min)	Pressure (MPa)						
	3	6	9	10.5	12	14	16
10	233	520	795	902	1074	1194	1363
	14	14	13	13	13	11	11
20	237	554	837	953	1117	1239	1407
	28	27	27	26	26	24	22
40	239	553	860	987	1171	1308	1483
	62	62	61	60	59	56	54
60	223	544	863	978	1172	1318	1498
	94	94	92	91	90	86	82
80	220	537	854	965	1172	1314	1497
	123	122	121	119	118	114	110
100	208	522	832	945	1156	1303	1488
	156	155	153	152	150	147	142
125	201	499	810	931	1137	1292	1472
	196	196	194	192	191	187	183
Max.cont.	174	492	785	921	1121	1277	1454
Max.int.	150	233	232	231	230	227	223

BMT 800 [801.8cm³/rev.]

Flow (L/min)	Pressure (MPa)						
	3	6	9	10.5	12.5	13	13
10	346	677	1003	1159	1365	1390	1390
	12	12	11	11	11	11	10
20	356	692	1034	1183	1404	1458	1458
	24	24	24	24	23	22	18
40	365	703	1066	1236	1459	1516	1516
	50	50	49	48	46	40	40
60	354	703	1060	1237	1464	1520	1520
	74	73	71	71	68	63	63
80	332	686	1050	1226	1464	1514	1514
	99	98	98	96	93	86	86
100	305	654	1025	1207	1445	1506	1506
	125	123	123	121	118	110	110
125	280	622	989	1181	1422	1487	1487
	154	153	153	150	149	140	140
Max.cont.	247	590	953	1156	1406	1476	1476
Max.int.	150	185	184	183	181	179	172

Torque (N-m) 1121
Speed (rpm) 227

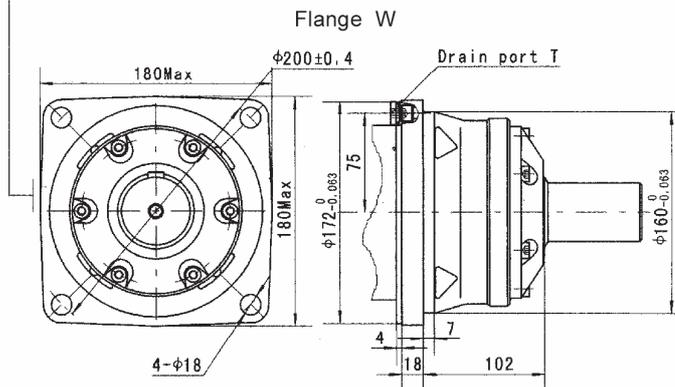
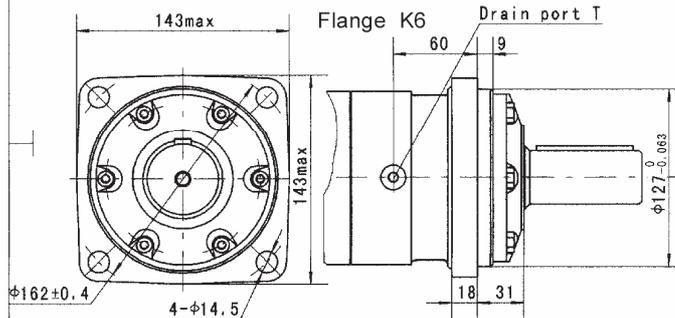
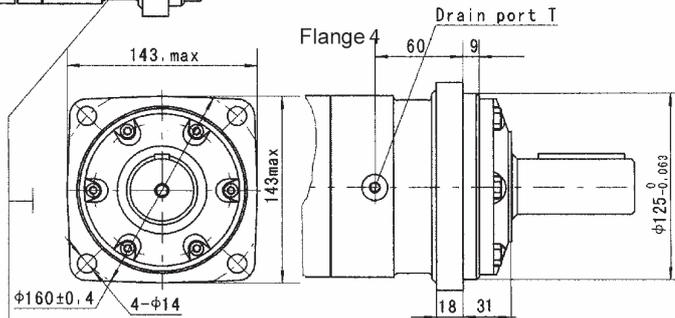
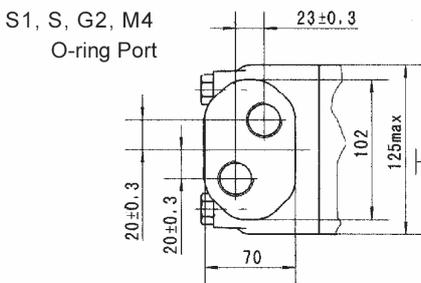
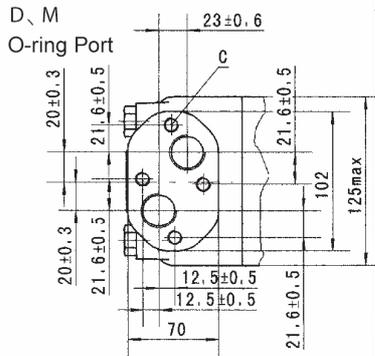
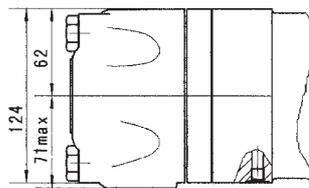
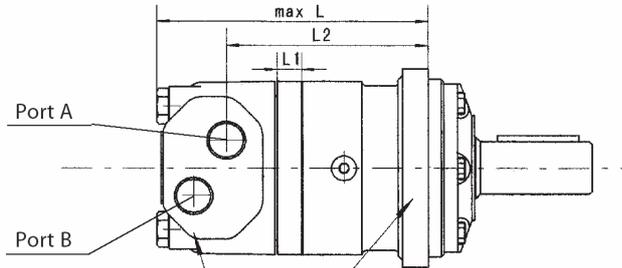
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int.

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BMT MOUNTING DATA

Model	L	L1	L2
BMTW230	147	19	96
BMTW250	149	21	98
BMTW315	155	27	104
BMTW400	161	34	111
BMTW500	170	42	119
BMTW630	182	54	131
BMTW725	186	58	135
BMTW800	193	65	142



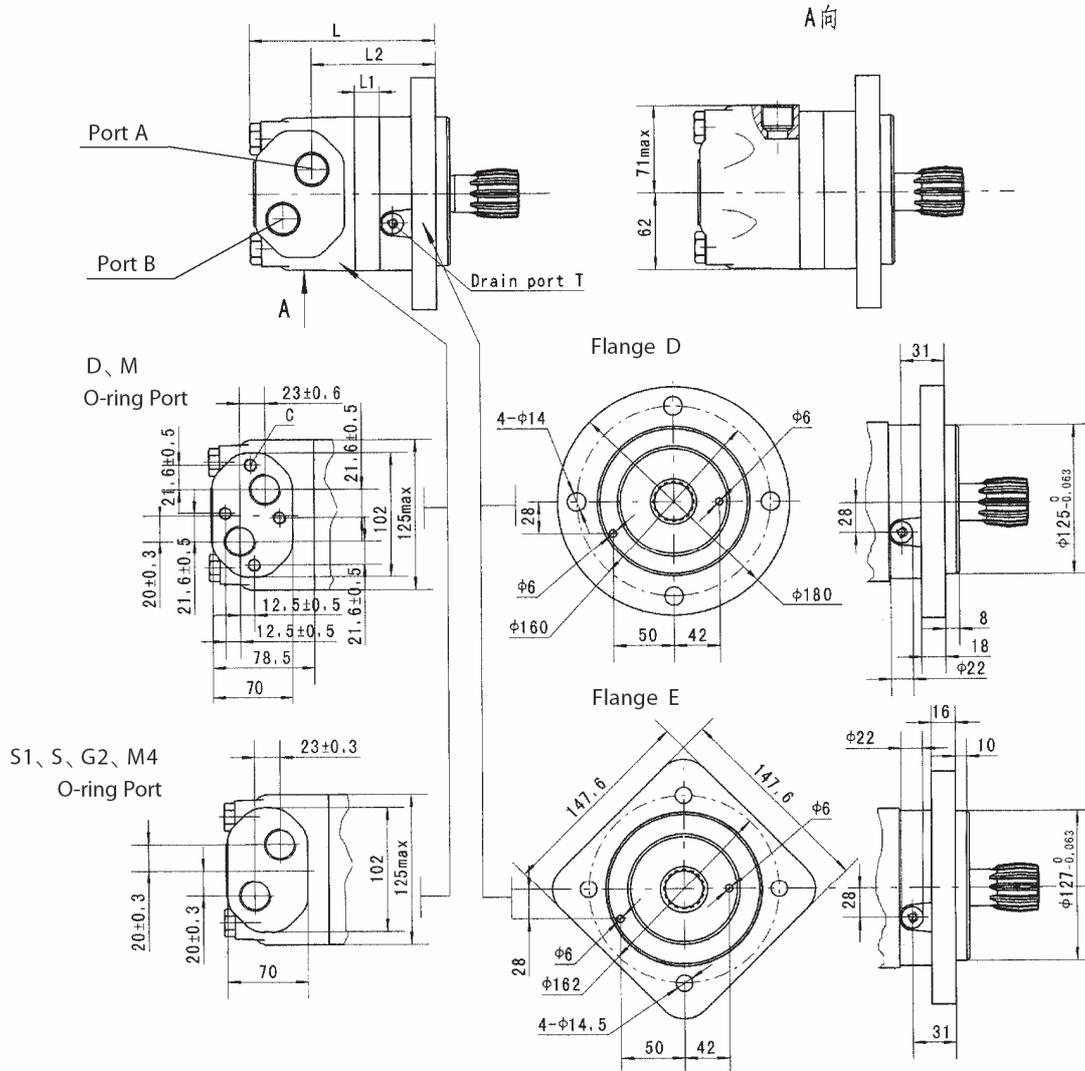
Model	L	L1	L2
BMT230	213	19	161.5
BMT250	215	21	163.5
BMT315	221	27	169.5
BMT400	228	34	176.5
BMT500	236	42	184.5
BMT630	248	54	196.5
BMT725	252	58	200.5
BMT800	259	65	207.5

Content	Code					
	D (depth)	M (depth)	S (depth)	G2(depth)	M4 (depth)	S1 (depth)
Mounting P (A,B)	G3/4 (18)	M27 x 2 (18)	1-1/16-12UN(18)	G3/4 (18)	M27 x 2 (18)	1-1/16-12UN (18)
T	G1/4 (12)	M14 x 1.5 (12)	9/16-18UNF (12)	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF(12)
C	4-M10 (10)	4-M10 (10)	--	--	--	--

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BMTS MOUNTING DATA



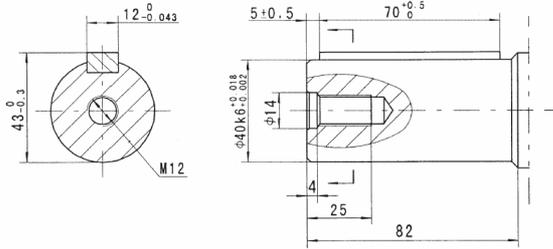
Model	L	L1	L2
BMTS160	157.5	20	107.5
BMTS200	162.5	25	112.5
BMTS250	168.5	31	118.5
BMTS315	177.5	40	127.5
BMTS400	187.5	50	137.5
BMTS500	200	62.5	150

Content	Code					
	D (depth)	M (depth)	S (depth)	G2 (depth)	M4 (depth)	S1 (depth)
P(A,B)	G3/4 (18)	M27 x 2 (18)	1-1/16-12UN(18)	G3/4 (18)	M27 x 2 (18)	1-1/16-12UN(18)
T	G1/4 (12)	M14 x 1.5 (12)	9/16-18UNF (12)	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF(12)
C	4-M10 (10)	4-M10 (10)	--	--	--	--

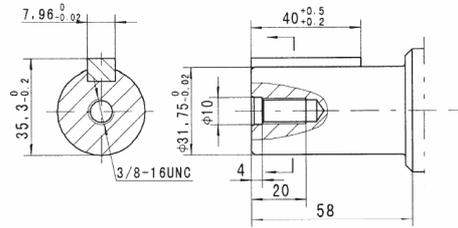
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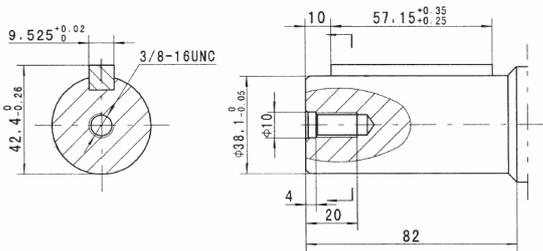
BMT SHAFT MOUNTING DAT E



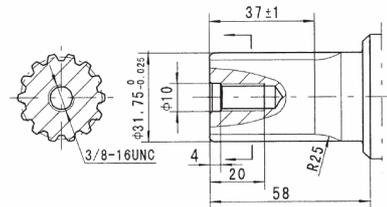
Shaft M: Cylindrical shaft Ø40
Parallel key 12x8x70



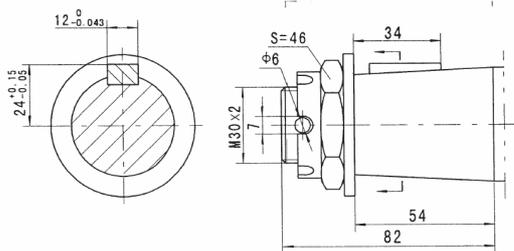
Shaft G1: Cylindrical shaft Ø31.75
Parallel key 7.96x7.96x40



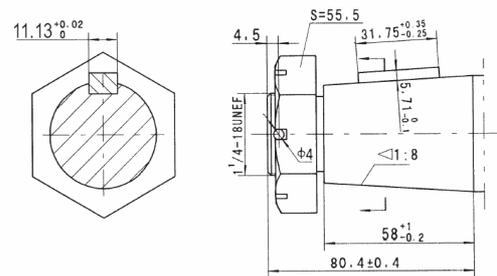
Shaft G: Cylindrical shaft Ø38.1
Parallel key 9.525x9.525x57.15



Shaft F1: Splined key 14-DP12/24

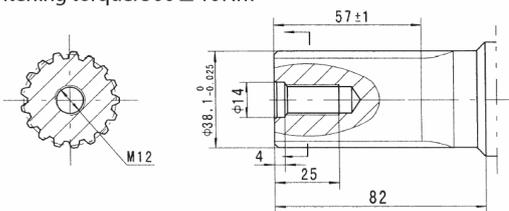


Shaft T: Cone-shaft Ø45
Parallel key B 12x8x28

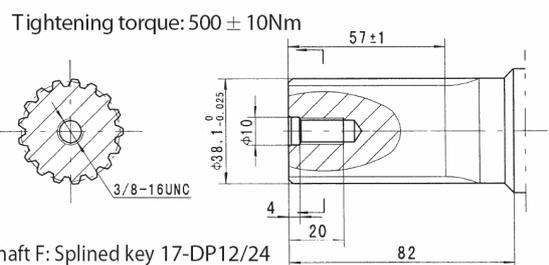


Shaft T1: Cone-shaft Ø45
Parallel key 11.13x11.13x31.75

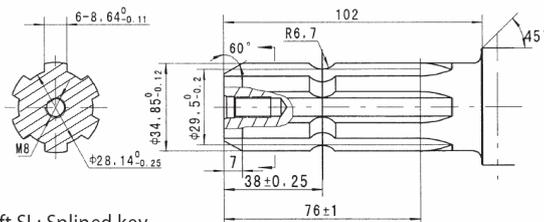
Tightening torque: 500 ± 10Nm



Shaft FD: Splined key 17-DP12/24



Shaft F: Splined key 17-DP12/24



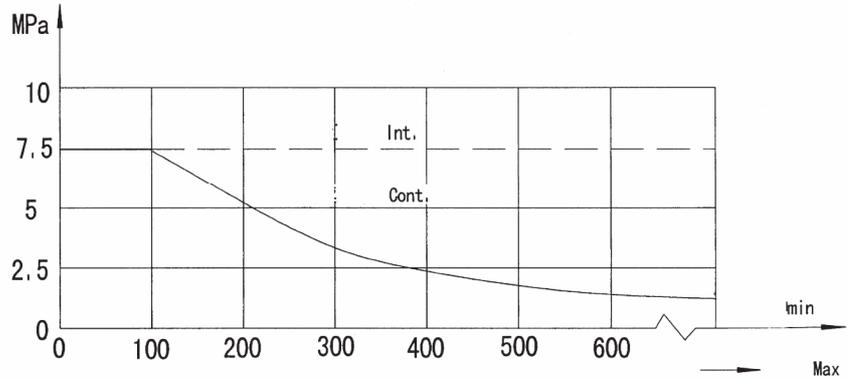
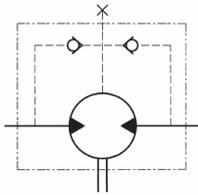
Shaft SL: Splined key
6-34.85x28.14x8.64

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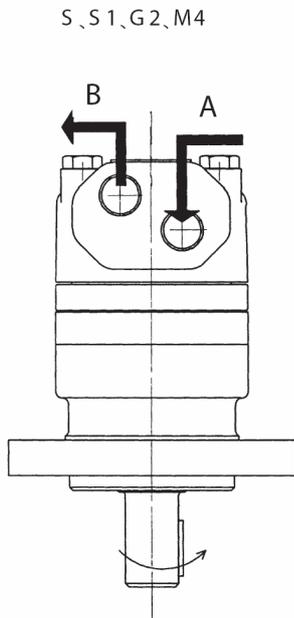
BMT Series Hydraulic Motor

Permissible shaft seal pressure

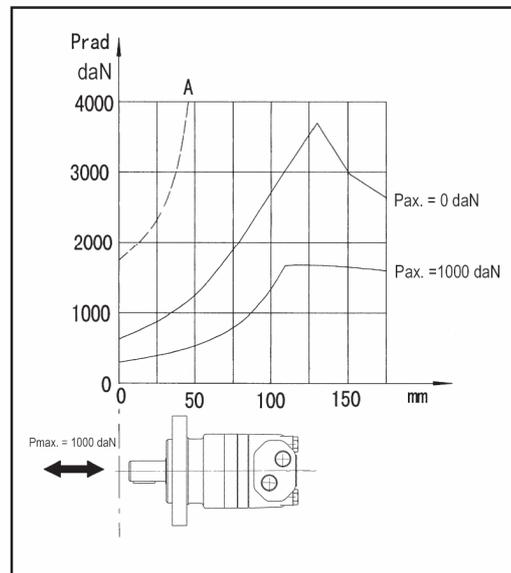


In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

Direction of shaft rotation



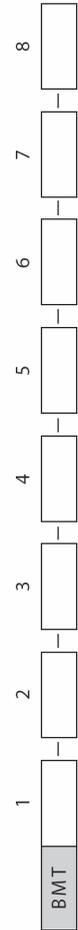
Axial and Radial forces



The output shaft runs in tapered bearings that permit high axial and radial forces, Curve "A" shows max radial shaft load, Any shaft loads exceeding the values quoted in the curve will involve a risk of breakage, The two other curves apply to a B10 bearing life of 3000 hours at 200 RPM.

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Order Information

Pos.1	2	3	4	5	6	7	8
Code	Disp.	Flange	Output Shaft	Port and Drain Port	Rotation Direction	Paint	Unusually Function
None	160 200 250 315 400 500 630 800	4 4-Ø14Square-flange Ø160, pilot Ø125 × 9 K6 4-Ø14.5Square-flangeØ162, pilot Ø127 × 9 W 4-Ø18Wheel-flangeØ200, pilot Ø160 × 7	M Shaft Ø40,splined Key 12 × 8 × 70	D M S S1 G M4	None Standard R	No paint Blue Black Silver gray	
			G Shaft Ø38.1,parallel Key 9.52 × 9.52 × 57.15				
			F Shaft Ø38.1,splined Key 17-DP12/24				
			T Cone shaft 1:10, parallel key B12 × 28 × 8				
			T1 Cone shaft 1:8, parallel key 11.13 × 11.13 × 31.75				
			SL Shaft Ø34.85, splined key 6-34.85 × 28.14 × 8.64				
			G1 Shaft Ø31.75, parallel key 7.96 × 7.96 × 40				
			F1 Shaft Ø31.75, splined key 14-DP12/24				
			FD Shaft Ø38.1,splined key 17-DP12/24				
			S				
E 4-Ø14.5Square-flange Ø162, pilot Ø127 × 10							

Note:When the table is used, please fill the code of left rows in dash area and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports. If the specification is not in the table or you have specific requirements, please contact us.

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